



# 2022 IMP & Recordkeeping



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**Safety and Enforcement Division**

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# Overview of Agenda Topics

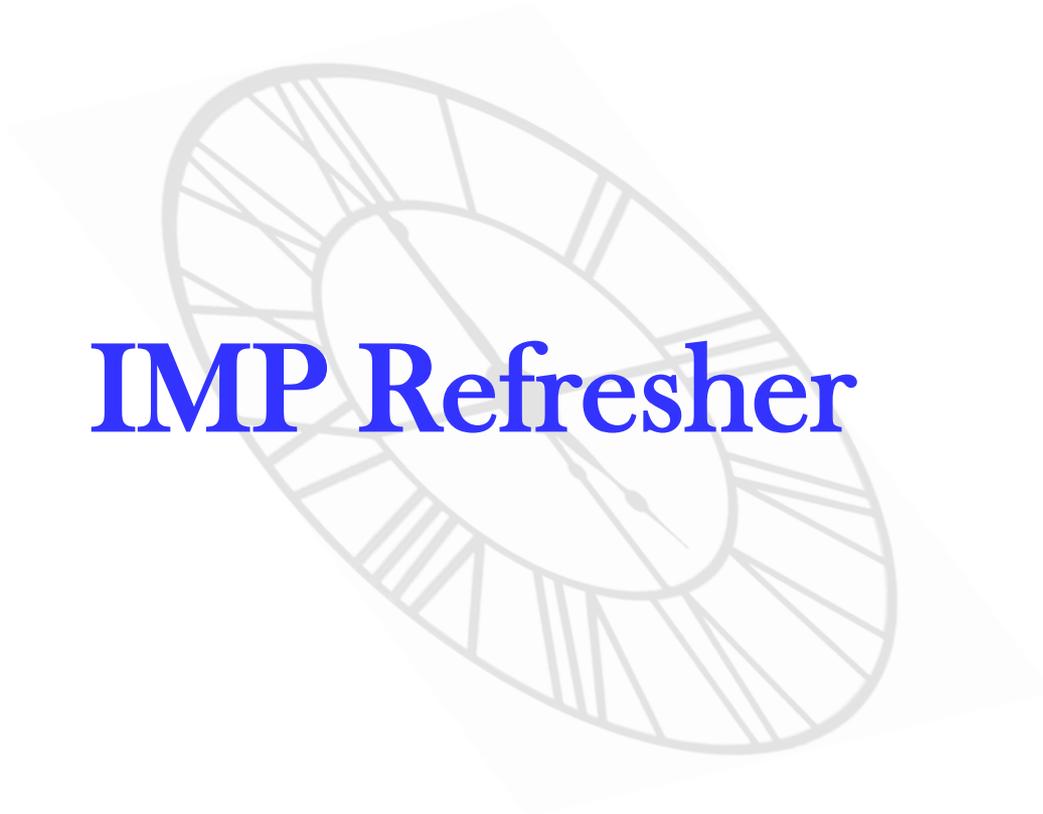
- Agenda
- Chapter 1 - IMP Refresher
- Chapter 2 - FRs, NPRMs, & the Future
- Chapter 3 - Recordkeeping
- Chapter 4 - Summary





# Chapter 1

## IMP Refresher





# Chapter 1 – What is IMP?

- What is IMP?
- Regulatory Milestones
  - RSPA Gas Transmission Rule (2003)
  - IBR B31.8S – 2004 (2006)
  - Pipeline Safety Reporting Rule (2011)
  - Mega Rule Phase 1 (2019)





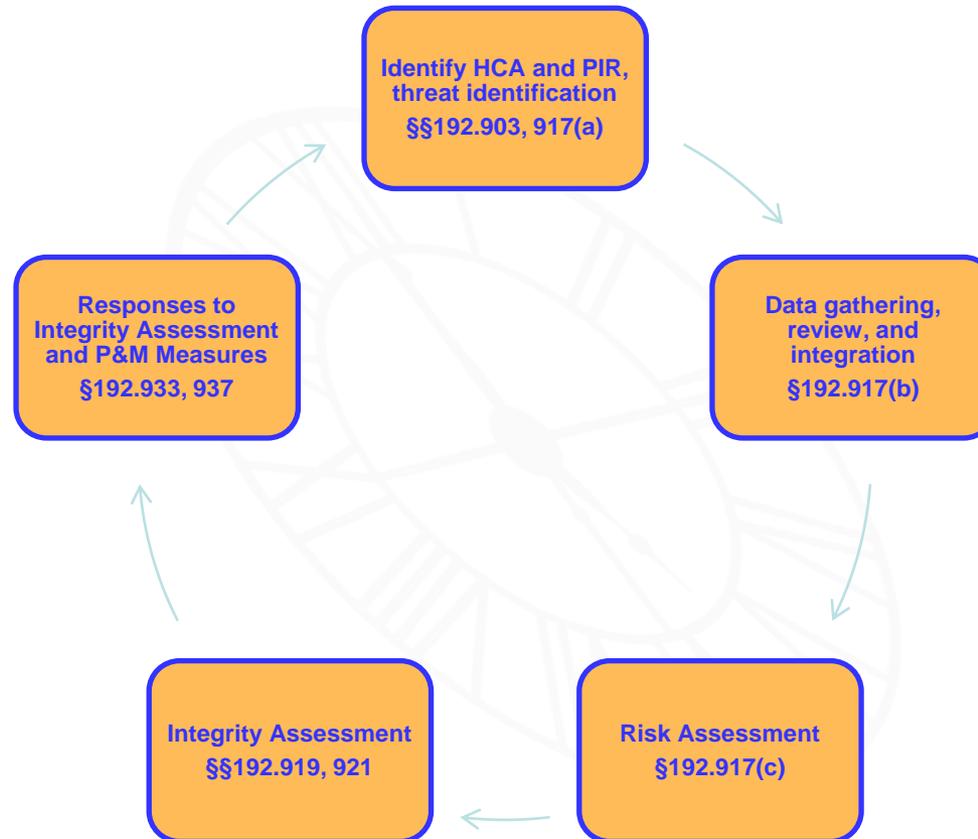
# Chapter 1

- What is the scope or involvement between IMP and normal business?
  - Affects system integrity
  - Improves safety of the general public and environmentally sensitive areas
  - Sets priorities for O&M activities, remediation
  - Furthers operators' system understanding





# Chapter 1 - IM Process





# Chapter 1 - Minimum Data Set For Data Gathering

1. Year of installation
2. Coating type
3. Coating condition
4. Years with adequate cathodic protection (CP)
5. Years with questionable cathodic protection
6. Years without cathodic protection
7. Soil characteristics
8. Pipe inspection reports (bell hole)
9. MIC detected (yes, no, or unknown)
10. Leak history
11. Wall thickness
12. Diameter
13. Operating stress level (% SMYS)
14. Past hydrostatic test information





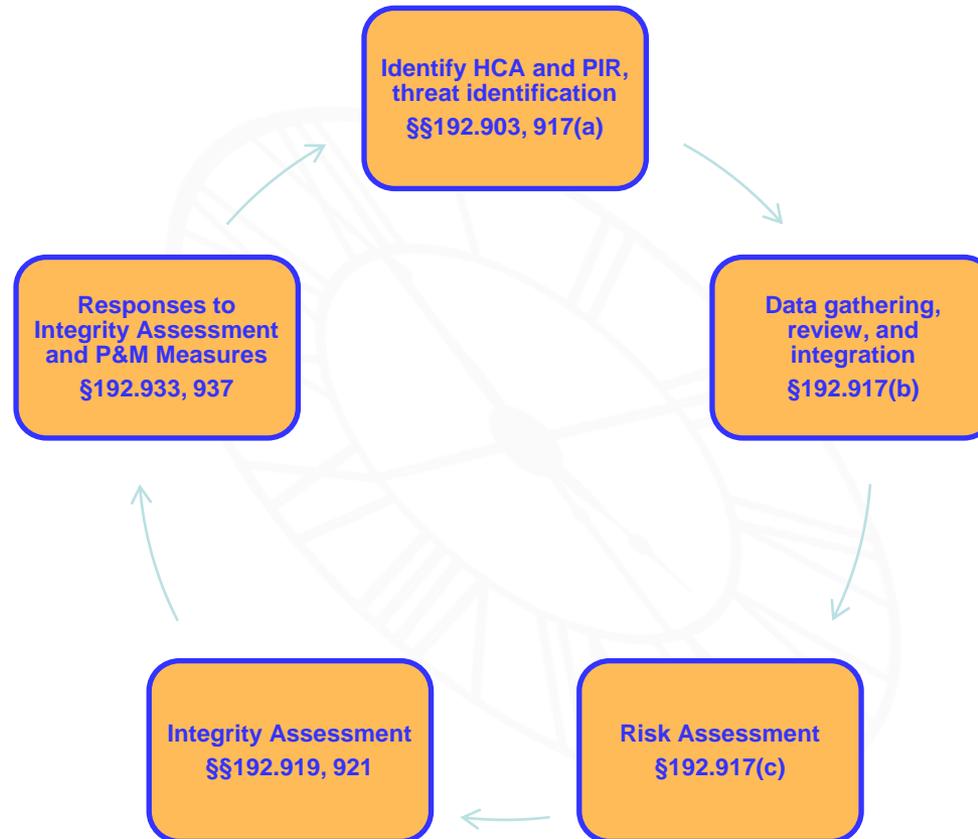
# Chapter 1 - Minimum Data Set For Data Gathering

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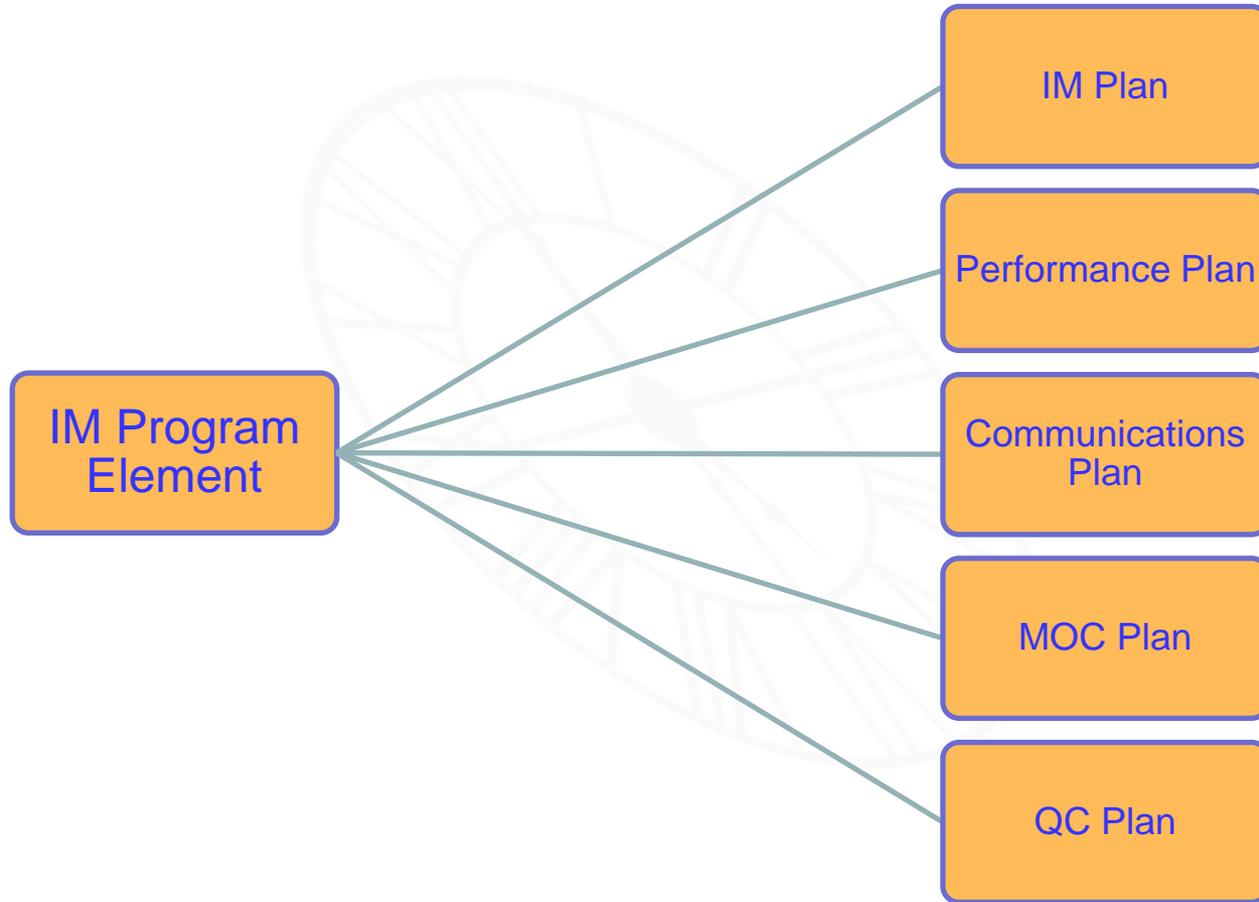


# Chapter 1 - IM Process



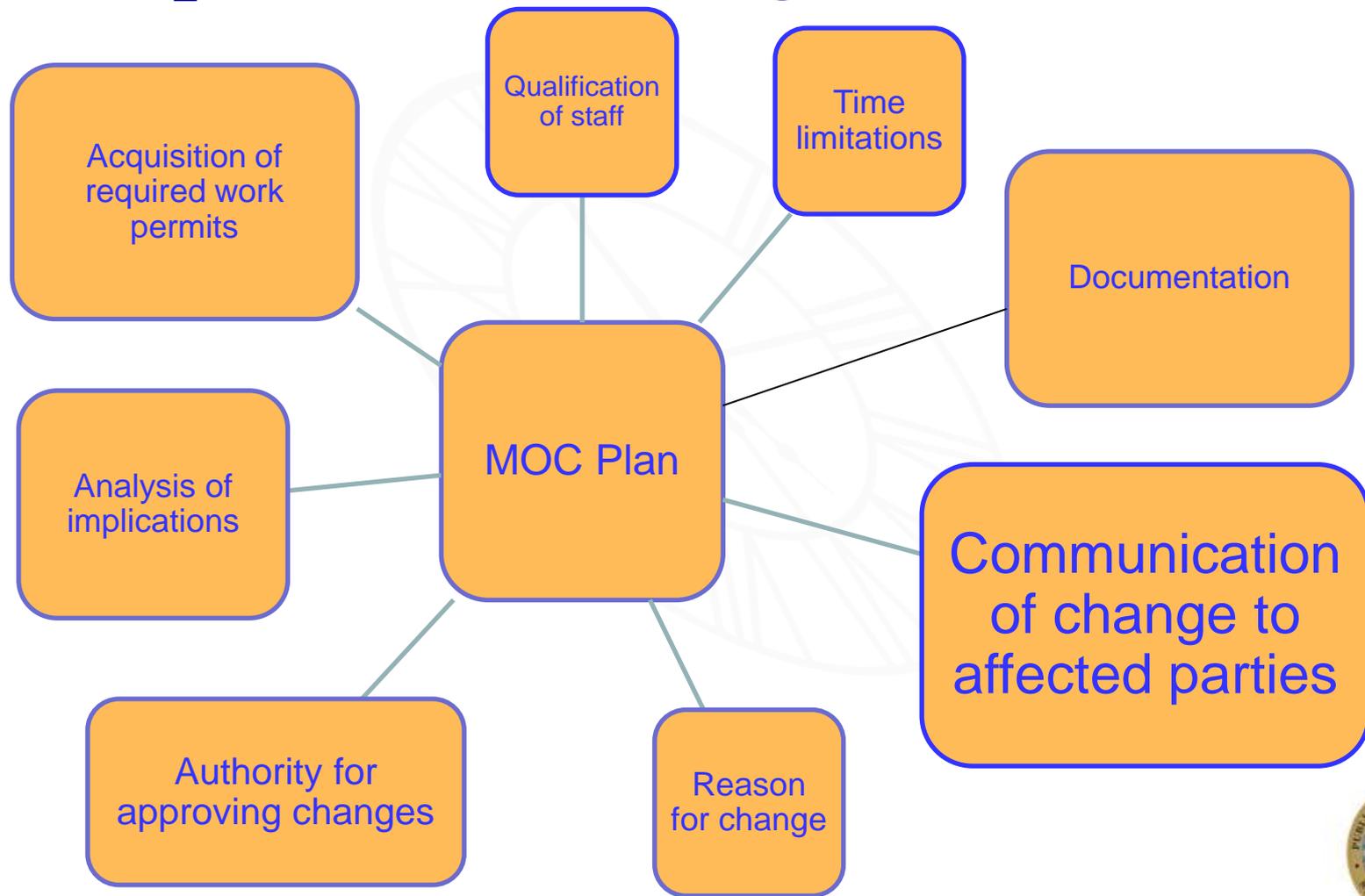


# Chapter 1 - IM Program Elements



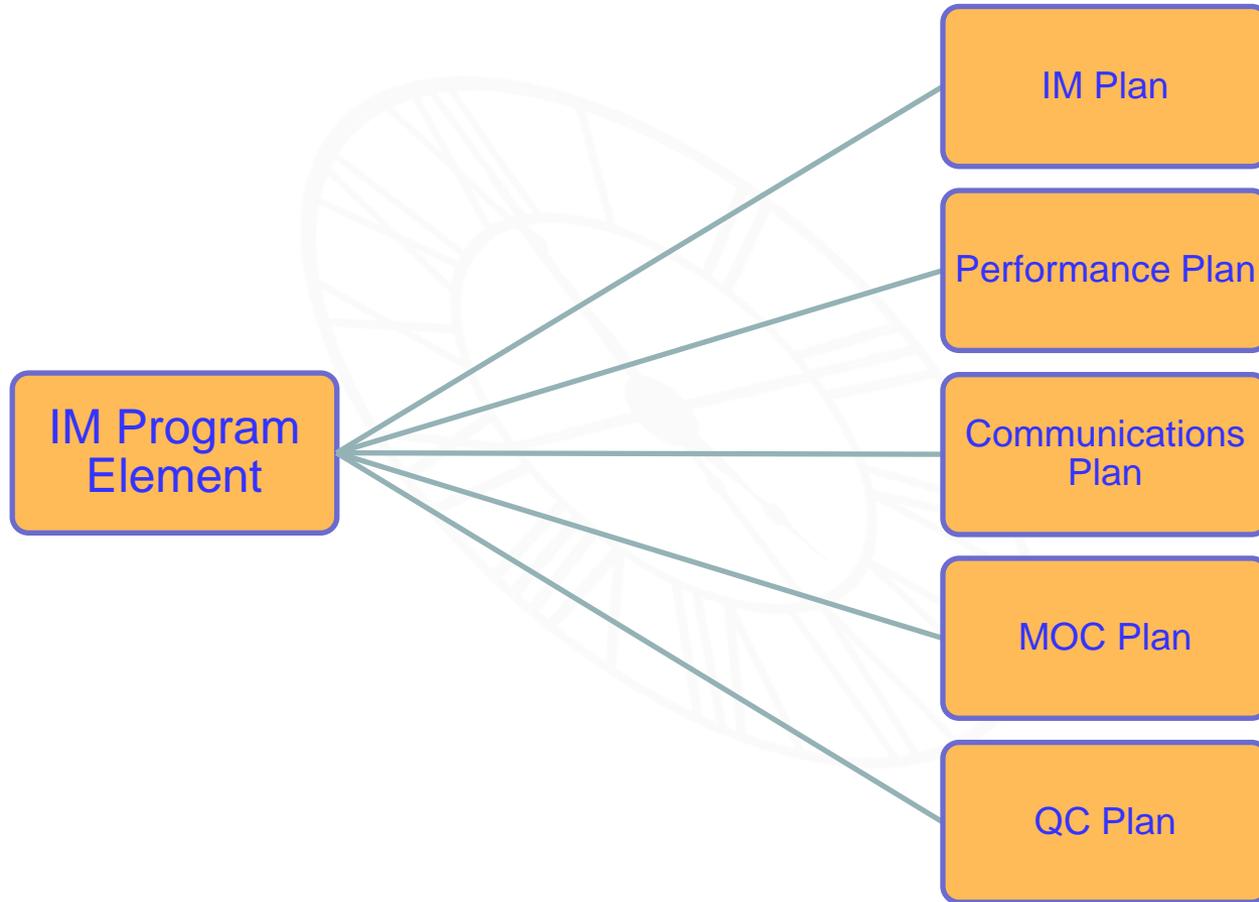


# Chapter 1 - IM Program Elements





# Chapter 1 - IM Program Elements





# Chapter 1 – Regulations, Standards, & References

- Title 49 CFR Part 192 Subparts O & P
- ASME/ANSI B31.8S-2004
- ANSI/ASNT ILI-PQ-2005 (2010)
- NACE Standard Practice (SP) 0102-2010
- NACE Standard Practice (SP) 0502-2010
- GRI 02/0057 (2002)
- ASME/ANSI B16.5-2003
- ASME/ANSI B31G – 1991
- AGA PRCR PR-3-805
- NACE SP0206-2006
- NACE RP0204-2004
- PHMSA GT IM FAQs & Interpretations





# Chapter 1 - DIMP

The scope of DIMP includes all of an operator's distribution facilities:

- Mains,
- Services,
- Appurtenances,
- Farm taps (FAQ C.3.7),
- Regulator stations, and
- Meter set assemblies





## Chapter 1 - DIMP Plan Elements

- Knowledge of System
- Identify and Assess Threats
- Evaluate and Rank Risk
- Identify & Implement Measures to Reduce Risks
- Measure Performance, Monitor Results & Evaluate Effectiveness
- Periodic Evaluation & Improvement
- Report Results (MM/small LPG exempt)





# Chapter 2

## FRs, NPRMs, & the Future





# Chapter 2: Final Rules

- Pipeline Safety: Safety of Hazardous Liquid Pipelines
- Pipeline Safety: Safety of Gas Transmission Pipelines, MAOP Reconfirmation, Expansion of Assessment Requirements and Other Related Amendments \*
- Underground Storage Facilities for Natural Gas
- Pipeline Safety: Gas Pipeline Regulatory Reform
- Pipeline Safety: Safety of Gas Gathering Pipelines
- Pipeline Safety: Amendments to Parts 192 and 195 to require Valve installation and Minimum Rupture Detection Standards
- Safety of Gas Transmission Pipelines, Repair Criteria, Integrity Management Improvements, Cathodic Protection, Management of Change, and Other Related Amendments





# Chapter 2: RIN 2137-AE66

Pipeline Safety: Safety of Hazardous Liquid Pipelines

Effective Date: 7/1/2020

Key Points:

- Repeal Gravity Line exceptions
- Mandate new/replacement pipeline to accommodate ILI
- Pipeline in HCAs to be modified to accommodate ILI by 7/2/2040
- Expand reporting requirements,
- Require inspection of areas affected by extreme weather and natural disasters,
- Expand and modify IMP-lite requirements to non-HCA segments
- Periodic assessment
- IM repair criteria
- ILI usage





## Chapter 2: RIN 2137-AF38

Pipeline Safety: Safety of Gas Transmission Pipelines, MAOP Reconfirmation, Expansion of Assessment Requirements and Other Related Amendments

AKA Mega Rule Phase 1 or 2019 Gas Transmission Rule (GTR)

Effective Date: 7/1/2020

### Key Points:

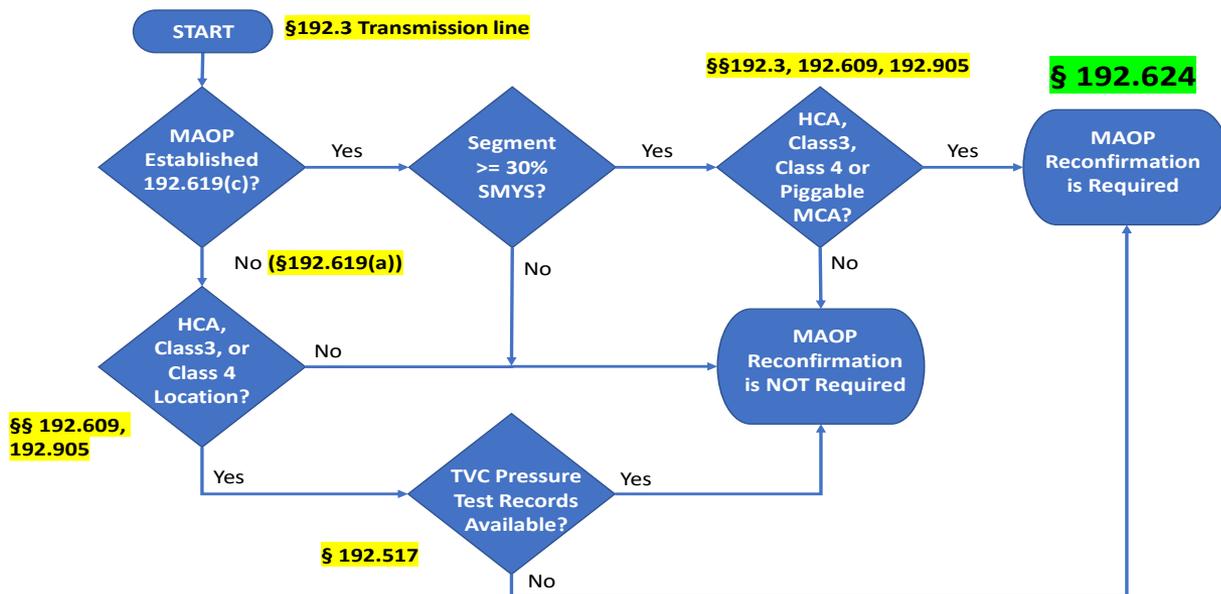
- Establish TVC records or verify material properties
- MAOP Reconfirmation if MAOP records not TVC (§§192.619, 192.624)
- MCA establishment and assessment
- Expand integrity assessment and reporting for non-HCA segments





# §192.624 Applicability - Flow Chart

§192.624(a) Applicability of MAOP Reconfirmation: Onshore steel transmission pipelines.





## §192.624 Procedures and Completion Dates

(b) *Procedures and completion dates.* .....All actions required by this section must be completed according to the following schedule:

(1) Operators must complete all actions required by this section on at least 50% of the pipeline mileage by July 3, 2028.

(2) Operators must complete all actions required by this section on 100% of the pipeline mileage by July 2, 2035 or as soon as practicable, but not to exceed 4 years after the pipeline segment first meets a condition of §192.624(a) (e.g., due to a location becoming a high consequence area), whichever is later.





## Chapter 2: RIN 2137-AF38

### ❖ HCA vs non-HCA CL3/4 vs MCA

Type	Class Location	Meets §192.903 HCA Definition?	PIR Considerations with Human Occupancy Buildings	PIR contains paved surface of an interstate, freeway, expressway, arterial roadway with 4 or more lanes
HCA	Class 1, 2, 3, or 4	Yes	46 or more	-
MCA	Class 1, 2, 3, or 4	No	5 or more	Yes
Non-HCA subject to §192.710	Class 3 or Class 4	No	-	No
Non-HCA	Class 1 or Class 2	No	-	-





# Chapter 2: RIN 2137-AF38

## Key Points (continued):

- Seismicity into risk analysis and data integration
- Reporting required for MAOP exceedances, alternative sampling plans, MAOP reconfirmation with Other Technologies, non-HCA assessments, MV usage of an expanded sampling approach
- 6-month extension of reassessment intervals with notice
- ILI inspection and tool passage
- Additional assessment methods
  - “Spike” Hydrostatic pressure test
  - Guided Wave Ultrasonic Testing (GWUT)
  - Excavation with direct in situ examination
- Incorporation of predicted failure pressure analyses





# Chapter 2: RIN 2137-AF22

Pipeline Safety: Underground Storage Facilities for Natural Gas

Effective Date: 3/13/2020

## Key Points:

- PHMSA incorporates API RP 1170 and 1171
- Formalizes requirements and deadlines for **IMP** and **BAP**
- Synchronizes risk management practices between salt cavern storage facilities and depleted-hydrocarbon reservoirs and aquifers
- Narrows scope of reportable events and changes
- Revises the definition of a UNGSF's boundaries
- Revises reporting portal web domain and name





# Chapter 2: RIN 2137-AF36

Pipeline Safety: Gas Pipeline Regulatory Reform

Effective Date: 3/12/2021

Key Points:

- General updates to Part 191 and 192
- Annual Report threshold and other changes across various subparts
- Commentary on threat identification and risk assessment
  - Atmospheric corrosion
  - Pressure regulating devices for farm taps





# Chapter 2: RIN 2137-AF38

Pipeline Safety: Safety of Gas Gathering Pipelines

AKA Mega Rule Phase 3

Effective Date: 5/16/2022

Key Points:

- Onshore gathering lines categorized as
  - “Regulated” - Type A, Type B, or Type C
  - “Reporting-Regulated” - Type R
- Adopts safety requirements to onshore gathering lines with O.D.  $\geq$  8.625 inches
- Incorporates into DP, ERP, PAP, certain O&M activities including
  - Corrosion Control
  - Line Markers
  - Leakage Surveys
- MAOP establishment for gathering lines





TABLE 1 TO PARAGRAPH (c)(2)

Type	Feature	Area	Additional safety buffer
A .....	<ul style="list-style-type: none"> <li>—Metallic and the MAOP produces a hoop stress of 20 percent or more of SMYS.</li> <li>—If the stress level is unknown, an operator must determine the stress level according to the applicable provisions in subpart C of this part.</li> <li>—Non-metallic and the MAOP is more than 125 psig (862 kPa).</li> </ul>	Class 2, 3, or 4 location (see § 192.5) ...	None.
B .....	<ul style="list-style-type: none"> <li>—Metallic and the MAOP produces a hoop stress of less than 20 percent of SMYS. If the stress level is unknown, an operator must determine the stress level according to the applicable provisions in subpart C of this part.</li> <li>—Non-metallic and the MAOP is 125 psig (862 kPa) or less.</li> </ul>	<p>Area 1. Class 3, or 4 location .....</p> <p>Area 2. An area within a Class 2 location the operator determines by using any of the following three methods:</p> <ul style="list-style-type: none"> <li>(a) A Class 2 location;</li> <li>(b) An area extending 150 feet (45.7 m) on each side of the centerline of any continuous 1 mile (1.6 km) of pipeline and including more than 10 but fewer than 46 dwellings; or</li> <li>(c) An area extending 150 feet (45.7 m) on each side of the centerline of any continuous 1000 feet (305 m) of pipeline and including 5 or more dwellings.</li> </ul>	<p>If the gathering pipeline is in Area 2(b) or 2(c), the additional lengths of line extend upstream and downstream from the area to a point where the line is at least 150 feet (45.7 m) from the nearest dwelling in the area.</p> <p>However, if a cluster of dwellings in Area 2(b) or 2(c) qualifies a pipeline as Type B, the Type B classification ends 150 feet (45.7 m) from the nearest dwelling in the cluster.</p>
C .....	<p>Outside diameter greater than or equal to 8.625 inches and any of the following:</p> <ul style="list-style-type: none"> <li>—Metallic and the MAOP produces a hoop stress of 20 percent or more of SMYS;</li> <li>—If the stress level is unknown, segment is metallic and the MAOP is more than 125 psig (862 kPa); or</li> <li>—Non-metallic and the MAOP is more than 125 psig (862 kPa).</li> </ul>	Class 1 location .....	None.
R .....	—All other onshore gathering lines .....	Class 1 and Class 2 locations .....	None.





## Chapter 2: RIN 2137-AF38

Per §192.619, the MAOP for Type C gathering lines may be established in one of two ways:

- Via operational pressure records or pressure test data (§192.619(a)(3))
- Approval from PHMSA following notification (in accordance with §192.8)





## Chapter 2: RIN 2137-AF38

Per §192.619(c)(2), the notification must include:

- Proposed MAOP of the segment
- Description of pipeline segment including diameter, wall thickness, pipe grade, seam type, location, endpoints, other pertinent material properties, and age
- Pipeline operating data, including operating history and maintenance history
- Description of methods being used to establish MAOP
- Technical justification for use of the methods chosen to establish MAOP
- Evidence of review and acceptance of the justification by a qualified technical subject matter expert.





# Chapter 2: RIN 2137-AF06

Pipeline Safety: Amendments to Parts 192 and 195 to require Valve installation and Minimum Rupture Detection Standards

Effective Date: 10/5/2022

Key Points:

- Applies to most HL, GT, Type A gathering lines 6 inches or greater
- New and replaced pipelines must have “rupture-mitigation valves” or equivalent
- If an operator observes or is notified of a release of gas or HL which may be a “notification of potential rupture”, the operator must
  - as soon as possible, but within 30 minutes:
  - Identify the rupture and,
  - Fully close any RMVs (i.e., ASVs/ RCVs) to mitigate the rupture
- New valve spacing requirements for GT & HL pipeline





## Chapter 2: RIN 2137-AF06

### Key Points:

- Develop written procedures to identify confirm whether a “notification of potential rupture” is a rupture.
- Maintenance and drill requirements for equivalent technology to ensure the valve can close within 30 minutes after identifying a rupture.
- Operator investigation following a rupture with any lessons learned implemented throughout the pipeline system.
- Updated 9-1-1 notification requirements (direct notification of appropriate public safety answering point).





## Chapter 2: RIN 2137-AF39

Pipeline Safety: Safety of Gas Transmission Pipelines, Repair Criteria, Integrity Management Improvements, Cathodic Protection, Management of Change, and Other Related Amendments

AKA Mega Rule Phase 2

Effective Date: After publication in the Federal Register

Key Points:

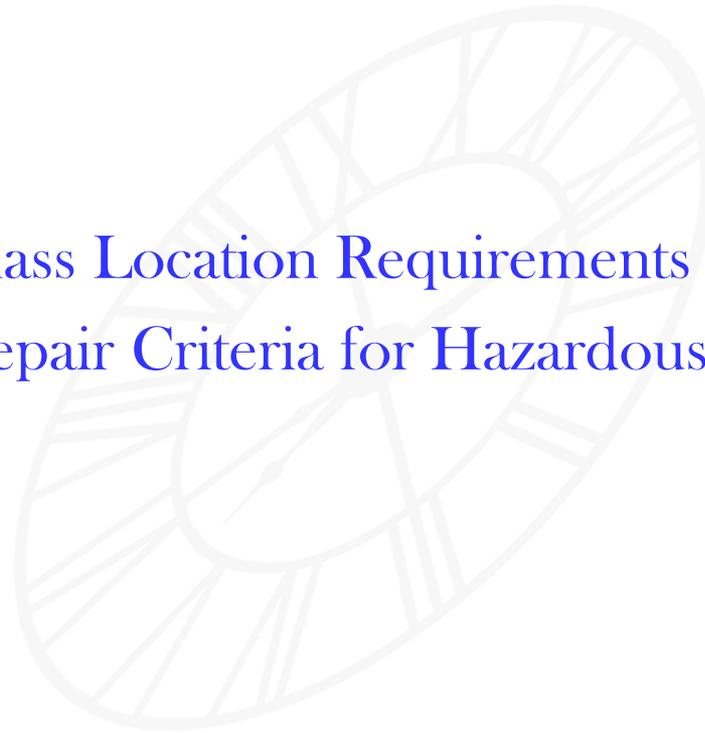
- Repair criteria in HCAs and non-HCAs
- Inspection of pipelines following extreme events
- Safety features on ILI launchers and receivers
- Bolstering pipeline corrosion control
- Codifying and clarifying MOC, IM provisions
- Strengthen IM assessment requirements





## Chapter 2: NPRMs

- Pipeline Safety: Class Location Requirements
- Pipeline Safety: Repair Criteria for Hazardous Liquid Pipelines





# Chapter 2: RIN 2137-AF29

Pipeline Safety: Class Location Requirements

Long-Term Actions: Projected FR 3/21/23

Key Points:

- Class location requirements for natural gas transmission pipelines, specifically
  - Required actions following class location changes due to population growth
- Investigates integrity management measures for pipelines where class locations have changed due to population increases as an alternative to pressure reductions, pressure testing, or pipe replacement





## Chapter 2: RIN 2137-AF44

Pipeline Safety: Repair Criteria for Hazardous Liquid Pipelines

Long-Term Actions: Projected NPRM 7/13/22

Key Points:

- Modify the repair criteria in HL pipeline HCAs
- Develop new repair criteria for HL pipeline non-HCAs





# Chapter 2: The Future

## Cyberattack: A 21st Century Threat

- Natural gas infrastructure is critical energy infrastructure
- Not a question of if, but when
- Reflect and review readiness and countermeasures





# Chapter 3

## Recordkeeping





# Chapter 3: §192.947 Recordkeeping

*An operator must maintain, for the **useful life of the pipeline**, records that demonstrate compliance with the requirements of this subpart. **At minimum**, an operator must maintain the following records for review during an inspection.*





# Chapter 3: §192.947 Recordkeeping

Written Integrity Management Program	Assessment and Remediation schedule
Threat Identification & Risk Assessment documents	Direct Assessment Plan
Written Baseline Assessment Plan	Confirmatory Direct Assessment Plan
IMP Personnel Training Program & Records	Verification of OPS provisions of IMP documents and notification
Documents supporting each IMP/BAP element's evaluation, deviation, analyses	Documents supporting each IMP/BAP element's execution and implementation





# Chapter 3: Recordkeeping - § 192.1011

*What records must an operator keep?*

- *Records demonstrating compliance to subpart requirements*
- *Copies of superseded integrity management plans developed under this subpart*





# Chapter 3: Recordkeeping - IM Program

## Part 192, Subpart O

- Pressure test and PFP analyses supporting threat identification (§192.917)
- Spike hydrotest, GWUT, Excavation and in situ direct examination, MAOP reconfirmation assessment used as a BAP or reassessment (§§ 192.921, 192.937)
- Periodic reviews and risk assessments for RMVs and process (§192.935)

## Part 192, Subpart P

- Evaluation (§192.1007) of:
  - atmospheric corrosion (explicitly)
  - regulator failure risk (implicitly) for farm tap operators





# Chapter 3: Recordkeeping - Via Data Gathering

## Part 192

- Class location determination (§192.5)
- RMV valve installation and spacing (§§192.179, 192.610)
- Welder and pipe joiner qualification records (§§192.227, 192.285)
- Material properties and attributes (§192.607)
- Post-incident lessons learned, performance analyses, and summaries for RMV related failure or incident (§192.617)
- Flow modeling for RMV usage (§192.636(f))
- Assessments outside of HCAs (§192.710)
- Analyses of Predicted Failure Pressure (§192.712(g))
- RMV performance and testing records (§192.745(d)(4))
- New O&M regulations (i.e., Launcher and receiver safety (§§192.750))





## Chapter 4: Summary

- Knowledge is power
  - The power to ensure safe pipeline integrity
- Cannot properly manage pipeline integrity without TVC data
- New regulations promote and expand better pipeline integrity management, in and outside of the IMP





# Questions?





**Thank you!**  
**For Additional Information:**  
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